

EXACT AND INEXACT DIVISION

FACT 1: If the divisor can be taken out of the dividend an exact number of times then the division is EXACT.

Here are some examples of EXACT division. There is no remainder.

$$20 \div 5 = 4 \quad (\text{Remainder is } 0)$$

$$30 \div 6 = 5 \quad (\text{Remainder is } 0)$$

$$42 \div 7 = 6 \quad (\text{Remainder is } 0)$$

FACT 2: If there is a remainder left after division then the division is inexact.

Here are some examples of INEXACT division. There is a remainder.

$$20 \div 3 = 6 \text{ R}2 \quad (\text{Remainder is } 2)$$

$$35 \div 6 = 5 \text{ R}5 \quad (\text{Remainder is } 5)$$

$$44 \div 5 = 8 \text{ R}4 \quad (\text{Remainder is } 4)$$

FACT 3: In exact division, both divisor and quotient are called FACTORS of the dividend.

$$20 \div 5 = 4 \quad \rightarrow \quad 4 \times 5 = 20 \quad \rightarrow \quad 4 \text{ and } 5 \text{ are factors of } 20$$

$$42 \div 7 = 6 \quad \rightarrow \quad 6 \times 7 = 42 \quad \rightarrow \quad 6 \text{ and } 7 \text{ are factors of } 42$$

FACT 4: When the division is inexact, the remainder is a fraction of the divisor.

In inexact division, the remainder is less than the divisor. Therefore, it is called a fraction (broken part) of the divisor.

$$5 \div 2 \quad \rightarrow \quad 2 \text{ and remainder } 1 \quad \rightarrow \quad 2 \text{ and '1} \div 2\text{' = } 2 \text{ and } 1/2$$

$$25 \div 3 \quad \rightarrow \quad 8 \text{ and remainder } 1 \quad \rightarrow \quad 8 \text{ and '1} \div 3\text{' = } 8 \text{ and } 1/3$$

$$35 \div 6 \quad \rightarrow \quad 5 \text{ and remainder } 5 \quad \rightarrow \quad 5 \text{ and '5} \div 6\text{' = } 5 \text{ and } 5/6$$

1. State if the following division is EXACT or INEXACT.

(a) $9 \div 3$ (c) $17 \div 5$ (e) $20 \div 4$

(b) $9 \div 2$ (d) $21 \div 4$ (f) $20 \div 3$

2. Answer the following

(a) Is 4 a factor of 13? (c) Is 7 a factor of 49? (e) Is 6 a factor of 48?

(b) Is 7 a factor of 35? (d) Is 6 a factor of 56? (f) Is 13 a factor of 91?

3. In the following inexact divisions provide the remainder as a fraction of the divisor.

(a) $8 \div 3$ (c) $16 \div 5$ (e) $20 \div 3$

(b) $9 \div 4$ (d) $31 \div 7$ (f) $19 \div 6$

End of Lesson